



**THE DATASHEET OF
MBS6 RC**



0.8A, 200V - 1000V Glass Passivated Bridge Rectifiers

FEATURES

- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326854
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



MBS



MECHANICAL DATA

Case: Molded plastic body

Molding compound, UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Part no. with suffix "H" means AEC-Q101 qualified

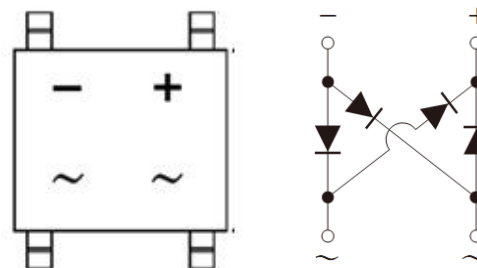
Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

Polarity: Polarity as marked on the body

Weight: 0.12 g (approximately)



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | |
|--|--------------------|------|------|--------------|------|-------|---|
| PARAMETER | SYMBOL | MBS2 | MBS4 | MBS6 | MBS8 | MBS10 | Unit |
| Maximum repetitive peak reverse voltage | V _{RRM} | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V _{RMS} | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V _{DC} | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current On glass-epoxy P.C.B. On aluminum substrate | I _{F(AV)} | | | 0.5 0.8 | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | | | 35 | | | A |
| Maximum instantaneous forward voltage (Note 1) I _F = 0.4 A | V _F | | | 1.0 | | | V |
| Maximum DC reverse current at rated DC blocking voltage | I _R | | | 5 100 | | | μA |
| | | | | | | | T _J =25 °C T _J =125 °C |
| Rating for fusing (t<8.3ms) | I ² t | | | 5.08 | | | A ² s |
| Typical junction capacitance per leg (Note 2) | C _J | | | 13 | | | pF |
| (Note 3) | R _{θJL} | | | 20 | | | °C/W |
| Typical thermal resistance (Note 4) | R _{θJA} | | | 70 | | | |
| (Note 3) | R _{θJA} | | | 85 | | | |
| Operating junction temperature range | T _J | | | - 55 to +150 | | | °C |
| Storage temperature range | T _{STG} | | | - 55 to +150 | | | °C |

Note 1: Pulse Test with PW=300μs, 1% Duty Cycle

Note 2: Measure at 1.0MHz and Applied Reverse Voltage of 4.0 Volts D.C.

Note 3: On glass epoxy P.C.B. mounted on 0.05" x 0.05" (1.3mm x 1.3mm) pads

Note 4: On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20mm x 20mm) mounted on 0.05" x 0.05" (1.3mm x 1.3mm) solder pads

ORDERING INFORMATION

| PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
|---------------------|-----------------|--------------|---------------------|---------|------------------------|
| MBSx (Note 1, 2) | H | RC | G | MBS | 3,000 / 13" Paper reel |

Note 1: "x" defines voltage from 200V (MBS2) to 1000V (MBS10)

Note 2: Whole series with green compound

EXAMPLE

| PREFERRED PART NO. | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
|--------------------|----------|-----------------|--------------|---------------------|--------------------------------------|
| MBS10HRCG | MBS10 | H | RC | G | AEC-Q101 qualified Green compound |

RATINGS AND CHARACTERISTICS CURVES

($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

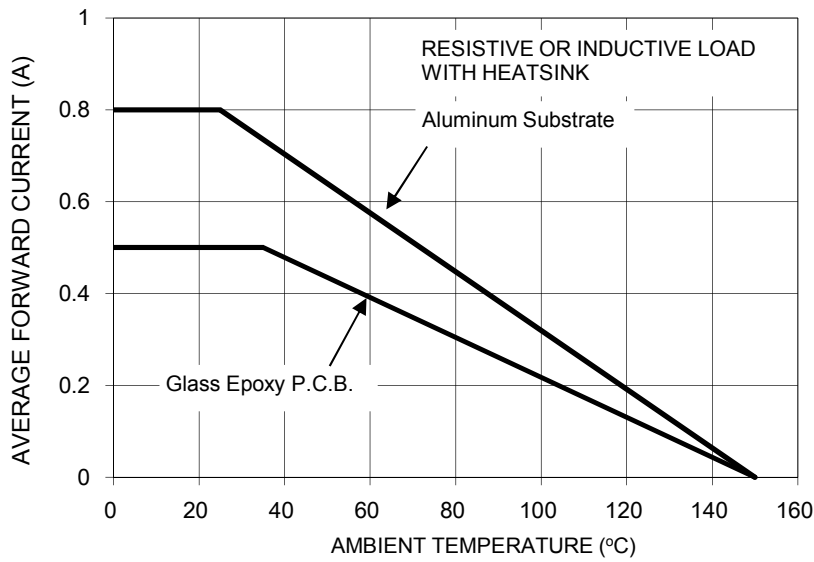


FIG. 2 TYPICAL REVERSE CHARACTERISTICS PER LEG

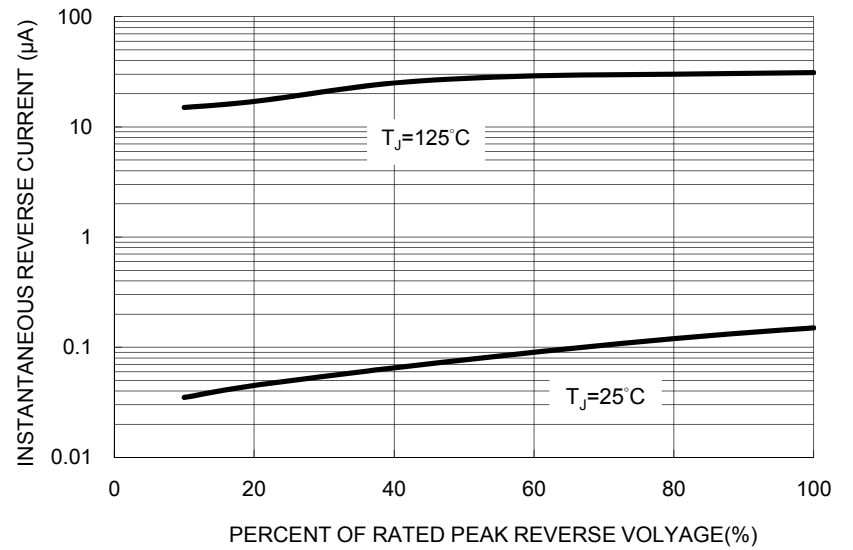


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

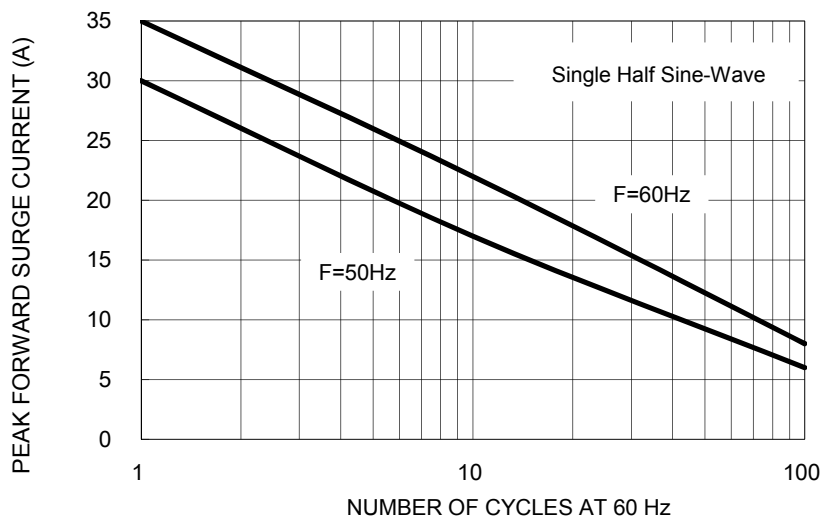


FIG. 4 TYPICAL FORWARD CHARACTERISTICS PER LEG

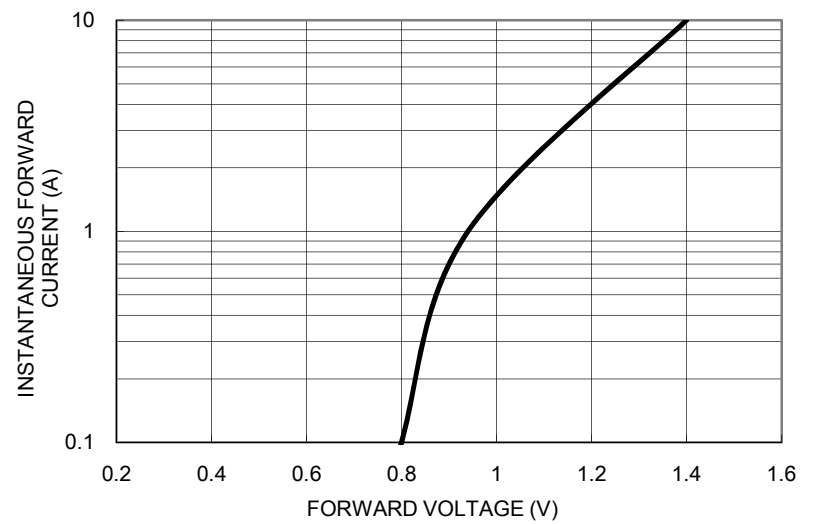
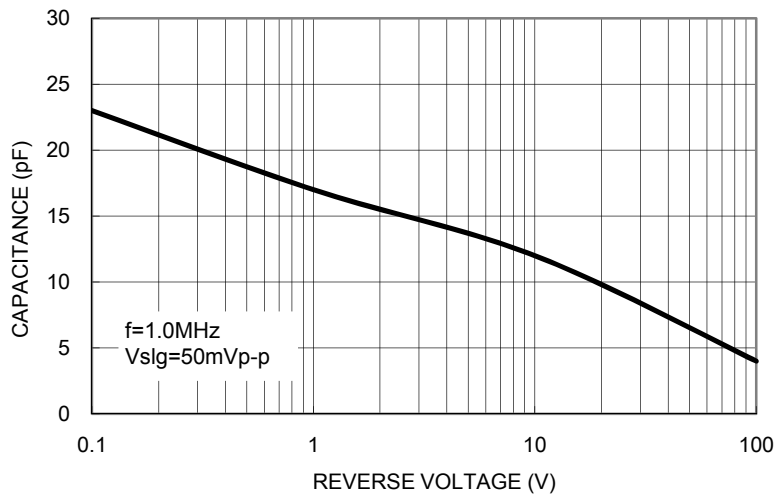
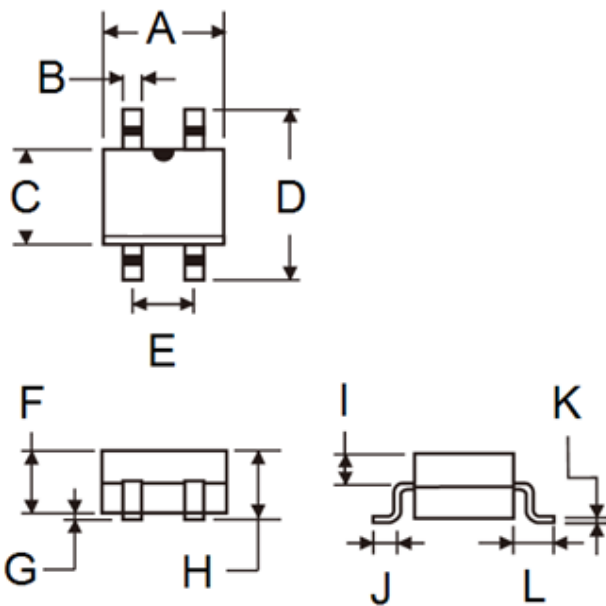


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG



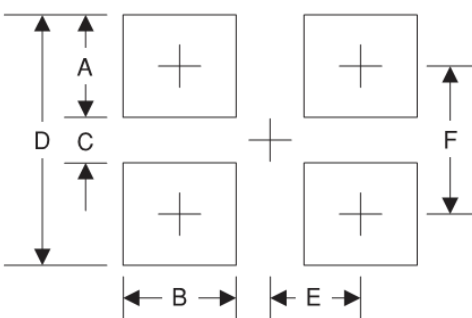
PACKAGE OUTLINE DIMENSIONS

MBS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 4.50 | 4.90 | 0.177 | 0.193 |
| B | 0.56 | 0.84 | 0.022 | 0.033 |
| C | 3.60 | 5.00 | 0.142 | 0.197 |
| D | - | 6.90 | - | 0.272 |
| E | 2.20 | 2.60 | 0.087 | 0.102 |
| F | 2.30 | 2.70 | 0.091 | 0.106 |
| G | - | 0.20 | - | 0.008 |
| H | - | 2.90 | - | 0.114 |
| I | 0.95 | 1.53 | 0.037 | 0.060 |
| J | 0.70 | 1.10 | 0.028 | 0.043 |
| K | 0.15 | 0.35 | 0.006 | 0.014 |
| L | 1.10 | 2.12 | 0.043 | 0.083 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.7 | 0.067 |
| B | 0.9 | 0.035 |
| C | 4.4 | 0.173 |
| D | 8.1 | 0.319 |
| E | 1.3 | 0.051 |
| F | 6.3 | 0.248 |

MARKING DIAGRAM



P/N = Specific Device Code
 YW = Date Code
 F = Factory Code

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